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I also certify that the attached copy of the request for grant of a Patent (Form 1/77) bears an amendment, effected by this office, following a request by the applicant and agreed to by the Comptroller-General.

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Stephen Hordley

Dated 5 May 2004

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29JAN01 E601321-1 D02626
P01/7700 0.00-0102143.5

PATENTS ACT 1977

PATENTS FORM No 1/77

The Comptroller,
The Patent Office

REQUEST FOR GRANT OF A PATENT

THE GRANT OF A PATENT IS REQUESTED BY THE UNDERSIGNED ON THE
BASIS OF THE PRESENT APPLICATION

26 JAN 2001

0102143.5

I Agent's reference: MILLENNIUM

II Title of Invention: Computer Desk System

III Applicant:

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01193615001

VII Declaration of Priority:
nil

VIII The Application claims an earlier date under Section 8(3), 12(6), 15(4), or 37(4):
Nil

IX Check List

A The application contains the following numbers of sheets:

- 1 Request 1 sheet
- 2 Description 5 sheets
- 3 Claims nil
- 4 Drawings 41 sheets
- 5 Abstract nil

B The application as filed is accompanied by:

nil

Claim Included in Description

X It is suggested that Figure No of the drawings should accompany the abstract when published

XI Signature:



Applicant

Computer Desk System

5 The present invention relates generally to desk systems for supporting computers.

Desk systems for supporting computers are well known. A typical desk system comprises a main desktop and, often, various drawers and cupboards, possibly with one or more of the drawers being intended to carry the computer keyboard. In some situations, eg
10 educational establishments, there will be one or more rows of desks, each carrying a respective computer. In that situation, the desks will usually need to be fixed together. It will also then usually be necessary to provide power cabling to the various computers, and often also signal cabling connecting the computers to each other and to other devices such as modems and servers.

15 The general object of the present invention is to provide an improved computer desk system.

According to the invention there is provided a computer desk system comprising:

- 20 a power unit providing a low voltage power supply;
a desk having a power bus running beneath its top from one end to the other so as to be connectable to the power supply and/or one or two similar adjacent desks; and
a sliding tray attached beneath the top of the desk and containing, coupled to the power bus, a central processing unit and at least one disc drive.

25 Further features of the invention will become apparent from the following description of a desk system embodying the invention given by way of example and with reference to the drawings, in which:

Fig. 1 is a top view of the desk; and

30 Fig. 2 is a top view of the desk with the desktop removed.



The system (Fig. 1) comprises a power supply unit 10, one or more desks 11, and, if appropriate, one or more filler units 12. The desks may be of any convenient shape, but the basic shape is rectangular, as shown in Fig. 1. Each desk has a cut-out 13 at one side and a matching projection 14 at the other side, so that two desks can be placed side by side so as to interlock with each other. In addition, the system may include one or more bridge units 12 each having a cut-out 16 and a matching projection 15. The bridge units may be linear, ie equivalent to a desk 16 but without a computer, or angle units; angle units may be square 90° angle units as shown, or may be curved and/or polygonal, and may have more than one cut-out and/or projection. The bridge units are in effect dummy units which can be included in the system to allow the spacing of the desk units to be increased and/or the line of desk units to include turns. Means (not shown) may be provided for screwing or bolting the units together in addition to the interlocking by projections and cut-outs.

Fig. 2 shows the desk 11 with the desktop removed. The desk has four legs 20 at its corners, two longitudinal struts 21 to which the mountings of the left-hand legs are attached, and a tray 22 to which the mountings of the right-hand legs 20 are attached and to which the struts 21 are attached. The legs can conveniently be threaded and screwable into their mountings, and, when demounted, can conveniently be stored in the space 23 between the struts 21.

The tray 22 is open at the front and contains a sliding drawer 24 which contains a central processing unit 25 and a disc drive unit 26 (which may conveniently include a floppy disc drive and a CD disc drive). The drawer 24 may also contain further computer units, such as a hard disc drive, if desired. Those units to which user access is required, such as the disc drive unit (which has to be accessible for insertion and removal of discs) are located at the front of the drawer. The drawer is preferably lockable in the tray in the closed position.

The desk also has a power bus 30 attached beneath the desktop, extending between two connectors 31 and 32. Connector 31 can conveniently be mounted in the side of the tray 22 near the back. Connector 32 is located near the rear of the left-hand side of the

desk, in a manner which allows it sufficient movement to permit it to be manually connected to the right-hand connector of a further desk engaged with the left-hand side of the desk 11. (The connectors must obviously be mounted in such a way that they do not interfere with the linking of adjacent desks by means of their projections and cut-outs.)

5 The power bus can be contained within a suitable channel (not shown) between the left-hand side of the tray 22 and left-hand edge of the desk if desired.

The bridge units 12 are also provided with power buses. For a corner bridge unit as shown, the power bus needs to pass between two diagonally opposite corners. If the bridge unit is rotated by 90° clockwise, however, so that the adjacent desk is above rather than below the bridge unit, the power bus needs to connect adjacent corners of the two desk units. The power bus can therefore conveniently be arranged with a central support beneath the top of the bridge unit, so that the ends of the power bus can be moved as appropriate for connection to the adjacent bridge units.

15 It will usually be possible to arrange the desks in such a way that the power bus connects them all connected. However, spur and/or ring power bus arrangements are obviously possible.

20 The power supply unit 10 provides suitable DC power supplies for the computer units. Convenient values are +12 V, + 5 V, 0 V, -5 V, and -12 V. The power supply unit is mains powered, and provides its outputs via a connector which can engage with connector 31 or connector 32. The bus 30 preferably has 6 or 8 conductors, for the 5 voltages just listed plus one or more spares.

25 A connection is made inside the tray 22 to the bus 30 to provide a power supply to the computer units in the drawer 24. The bus can conveniently be a flat parallel conductor bus, to which a connection can be made by a connector having elements which are forced through the insulation to engage with the respective power lines in the bus.

A standard computer consists not merely of a CPU and a disc drive unit but also includes a mouse, a keyboard, and a VDU. These units (not shown) are located on top of the desktop. The VDU can conveniently be located towards the rear right-hand side of the desk, with the mouse and the keyboard in front of it; a fixed mounting (not shown) may be provided on the desktop. The cables between the units on the desktop and the CPU can conveniently pass through an access hatch 40 (Fig. 1) over the rear of the tray 22. This access hatch can conveniently consist of a roughly oval hole in the desktop with a fitting cover 41 having a suitable number of cut-outs 42. The cover 41 rests on a rim 43 inside the hole and which extends along the sides of the hole but is omitted at the right-hand end of the hole. Pressing the right-hand end of the cover 41 will therefore cause it to tilt so that it can be temporarily removed to provide access to the rear of the tray 24 in the drawer 22.

The VDU must be powered from the power bus 30, and is therefore preferably of a type which can run on a low voltage supply. If the VDU requires a higher power voltage, then the power bus must also include the appropriate voltage, eg mains or some intermediate value. However, the computer units in drawer 24 are still powered by the low voltage supply on bus 30.

The desktop also has a slot 45, with a pocket (not shown) beneath it, for storing the keyboard when it is desired to clear a larger space on the desktop. The slot is preferably located slightly forward of the strut 21 and power bus 30. The connection cable to the keyboard can pass through the hatch 45, but is preferably routed underneath the desktop from the tray 22 to the pocket beneath the slot 45.

If desired, signal cabling can be associated with the power bus for coupling the computers together. However, infra-red or wireless coupling can be included in the computers, so that such signal cabling is unnecessary. Telephone cabling may similarly be provided if desired.

The present system considerably eases the installation of computer desk systems, since it uses units which can be prefabricated and need little or no modification on site. It

also reduces the chance of components of the computers being stolen, because the components are largely uncased and slightly non-standard. While such components can of course be used elsewhere, they require some adaptation for such use, and the chance of casual theft is therefore reduced.

Claims

Any feature of novelty or combination thereof within the meaning of Article 4H of the International Convention (Paris Convention).

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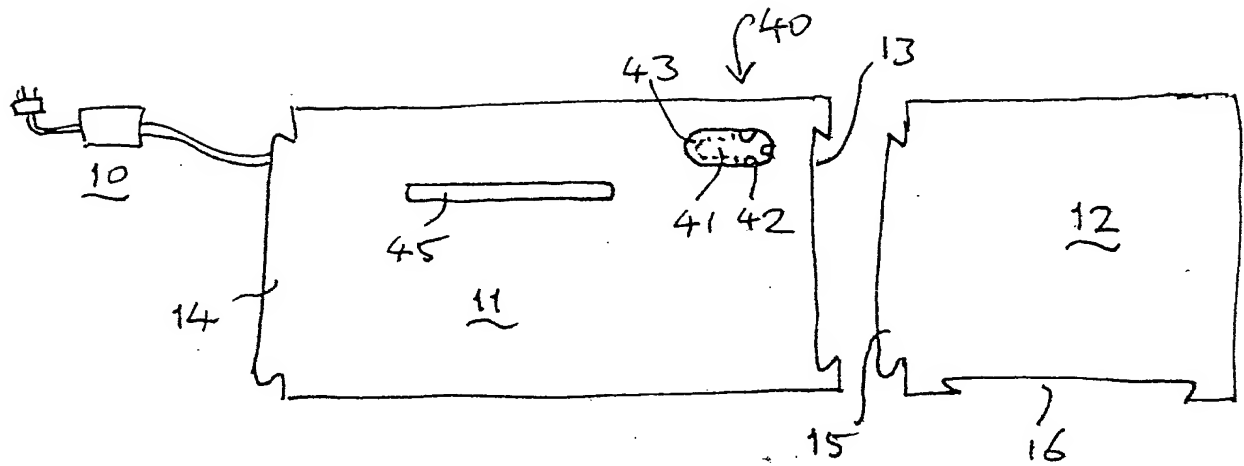


FIG. 1

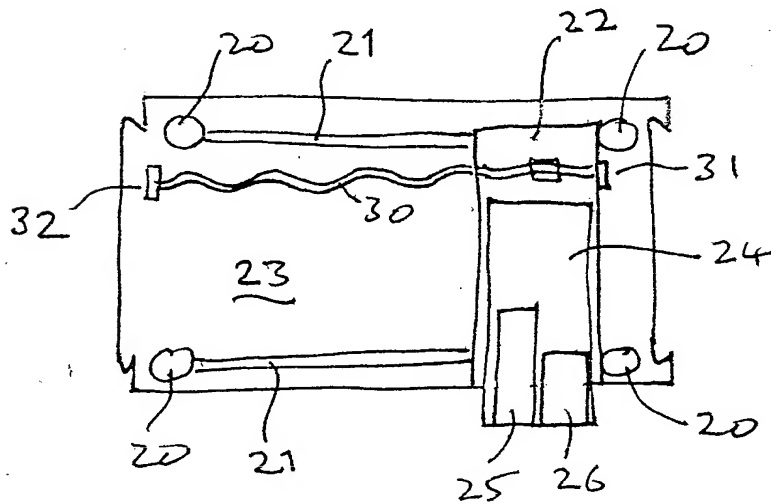
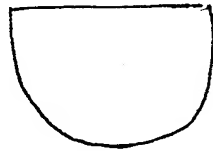


FIG. 2

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